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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/345,584	06/30/1999	GREG CONKLIN	REALNET.028A	1392

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

SEALEY, LANCE W

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 07/14/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/345,584

Applicant(s)

CONKLIN, GREG

Examiner

Lance W. Sealey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39, 41-43, 45, 46, 48, 49 and 51-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16, 24-39, 41-43, 45, 46, 48, 49, 51-54 and 56-73 is/are allowed.
- 6) ☒ Claim(s) 17-23 and 55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Allowed Subject Matter

1. All claims are allowed except claims 17-23 and 55 because all of the allowed independent claims include manifestations of the concept of filter strength, as defined in the claims and on pp.39-41 of the specification, and all of the allowed dependent claims depend on allowed independent claims.

2. It should also be mentioned that claims 1, 9, 24, 29, 32 and 55 cannot be rejected because of indefiniteness because the use of alternative expressions such as “or” or “and/or” do not render a claim limitation indefinite as long as the alternative expressions are considered equivalent or the plural alternatives cause no uncertainty with respect to the scope of the claim. In the case of claims 1, 9, 24, 29, 32 and 55, the “and/or” construction was interpreted in the following manner:

It could either mean (1) “generating third data representing at least one video frame based upon information from the first data” or (2) “generating third data representing at least one video frame based upon information from the second data” or (3) “generating third data representing at least one video frame based upon a combination of the first and second data”. Meeting any of the criteria of (1), (2), or (3) with art would have fulfilled the claim limitation. However, since claims 1, 9, 24, 29 and 32 also disclose the concept of filter strength, these claims are allowed.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 17-22 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter. A mere arrangement of printed matter (e.g., a video presentation), though seemingly a “manufacture”, is rejected as not being within the statutory classes. See *In re Miller*, 418 F.2d 1392, 164 USPQ 46 (CCPA 1969); *Ex parte Gwinn*, 112 USPQ 439 (Bd. App. 1955); and *In re Jones*, 373 F.2d 1007, 153 USPQ 77 (CCPA 1967).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

3. Claim 23 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Pearlstein et al. (“Pearlstein,” U.S. Pat. No. 5,568,200) in view of Van Hook et al. (“Van Hook”, U.S. Pat. No. 6,556,197).

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4. Pearlstein, in disclosing a method and apparatus for improved video display of progressively refreshed coded video, also discloses, with respect to claim 23, a system which generates video frames, the system comprising:

- a processor (video encoder/decoder transmission system 1, FIG.2);
- memory (data storage medium 22, FIG.2);
- a frame generator (video source 10, FIG.1) running on said processor, the frame generator inputting said first digital data and said second digital data, the frame generator outputting to said memory intermediate digital data representing an intermediate film frame based upon information within said first and second digital data, said intermediate digital data including identified groups of pixels (col.2, l.66-col.3, l.5—the first and second digital data would be an I- or P-picture, and the intermediate film frame would be a B-picture); and
- a decoder running on said processor, said decoder outputting to said memory first digital data representing a first film frame, said decoder outputting to said memory second digital data representing a second film frame (transport decoder 28, FIG.2).

5. However, Pearlstein does not disclose said frame generator reducing visible discontinuities near the perimeters of at least one of the groups of pixels included in said intermediate digital data. This element is disclosed by the Van Hook graphics coprocessor at col.56, ll.27-47.

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6. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the Pearlstein method with the Van Hook method of reducing visible discontinuities. Such a modification to Pearlstein would accomplish the antialiasing involved in providing a sharpened image (Van Hook, col.56, ll.39-47).

7. Claim 55 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Stallings et al., Business Data Communications (“Stallings”) in view of Pearlstein, Shackleton et al. (“Shackleton”, U.S. Pat. No. 5,410,358) and Van Hook.

8. A network is disclosed in Stallings, a book describing general computer concepts, on pp.21-22.

9. However, it is Pearlstein that discloses the bulk of this claim, a method of generating video frames, the method comprising the acts of:

- receiving in the memory first data representing a first video frame, the first data comprising a plurality of elements relating to a group of pixels (col.6, ll.45-50; see also col.4, ll.15-20 and 42-46 and data storage medium **22**, FIG.2. Reference frame=composite of several frames=intermediate frame);
- receiving second data representing a second video frame, the second data comprising a plurality of elements in the memory of the computer system, each element relating to a group of pixels (col.6, ll.45-50); and
- generating third data representing at least one video frame based upon information from

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the first and/or second data (col.6, ll.50-51; of the three possible meanings of this claim limitation discussed in paragraph 2 above, col.6, ll.50-51 meets (3) “generating third data representing at least one video frame based upon a combination of the first and second data”).

10. Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated Pearlstein processing after video has been transmitted over the Stallings network. Such processing would provide a more pleasing picture to the viewer (Pearlstein, Abstract, last paragraph).

11. However, neither Stallings nor Pearlstein does not disclose decoding the first and second video frame before generating the third data. This is disclosed by the Shackleton method and device for frame interpolation of a moving image at col.1, l.58-col.2, l.8.

12. Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated the Shackleton process into the Stallings-Pearlstein apparatus. The Shackleton contribution enables frame interpolation of a moving image without giving rise to blurring or jerkiness (Shackleton, col.1, ll.41-44).

13. However, neither Stallings, Pearlstein nor Shackleton disclose filtering at least a portion of the generated third data by reducing visible discontinuity between adjacent elements in the generated third data; this is disclosed by Van Hook at col.56, ll.27-47.

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14. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the Stallings-Pearlstein-Shackleton method with the Van Hook method of reducing visible discontinuities. Such a modification to Stallings-Pearlstein-Shackleton would accomplish the antialiasing involved in providing a sharpened image (Van Hook, col.56, ll.39-47).

Response to Remarks

15. In response to the applicant's assertion in his response that Takada et al. (U.S. Pat. No. 6,256,068), as applied to the rejection of claim 23 in the last Office action, did not teach or suggest "reducing visible discontinuities near *the perimeters* of at least one of the *groups of pixels* included in said intermediate digital data" because "Takada filters each of the pixels on a pixel by pixel basis...Takada does not organize the pixels into groups and then filter the pixels on the perimeter of the pixel groups, e.g., a macroblock."

16. Takada is not required by claim 23 to organize the pixels into groups and then filter the pixels on the perimeter of the pixel groups, or to filter pixels as a group instead of one pixel at a time. However, since Takada indeed does not teach or suggest reducing visible discontinuities near the perimeters of at least one of the groups of pixels included in said intermediate digital data, Takada has been replaced with Van Hook.

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

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Any inquiry concerning this communication or earlier communications from the Office should be directed to the examiner, Lance Sealey, whose telephone number is (703) 305-0026. He can be reached from 7:00 am-3:30 pm Monday-Friday EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

Any response to this action should be mailed to:

MS Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office at (703) 306-0377.

RESPECTFULLY SUBMITTED,
Lance W. Sealey
LANCE W. SEALEY, EXAMINER

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